

Alg. 2 Warm Up #10-4

1. Solve, check for extraneous solutions:

$$\sqrt{3x-3} - \sqrt{2x} = 1$$

HW Questions:

CL 7-168. Convert the following angles to radians.

a. 225°

b. 75°

c. -15°

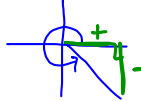
d. 330°

$$a) \frac{225}{1} \cdot \frac{\pi \text{ radians}}{180}$$

$$\frac{225\pi}{180}$$

$$\frac{5\pi}{4}$$

CL 7-169. Sketch each of the following angles in its own unit circle.

- a. An angle that has a positive cosine and a negative sine. 
- b. All angles that have a sine of 0.5.
- c. An angle that measures $\frac{4\pi}{3}$ radians. Find its exact sine.
- d. An angle with a negative cosine and a positive tangent.

CL 7-170. Without using a calculator, give the exact value of each expression.

- a. $\sin 60^\circ$ b. $\cos 180^\circ$ c. $\tan 225^\circ$
 d. $\sin \frac{\pi}{4}$ e. $\cos \frac{2\pi}{3}$ f. $\tan \frac{3\pi}{2}$

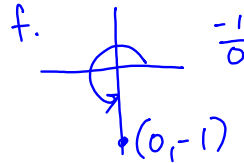
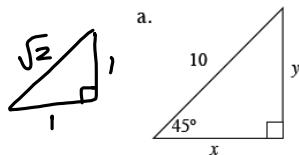


$\sin \rightarrow \frac{\text{opp}}{\text{hyp}}$

$$\sin \frac{\pi}{4} = \frac{1}{\sqrt{2}} \cdot \frac{\sqrt{2}}{\sqrt{2}}$$

$$\sin \frac{\pi}{4} = \frac{\sqrt{2}}{2}$$

look at the x coordinate on your unit circle.

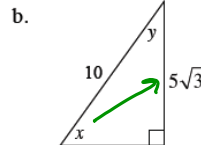
CL 7-171. If an angle between 0 and 2π radians has a sine of -0.5 , what is its cosine? How do you know?CL 7-172. Find the exact values of x and y in the drawings below.

for a $45^\circ-45^\circ-90^\circ$ \triangle :
 $\text{hyp} = \text{leg}(\sqrt{2})$

$$\frac{\sqrt{2}}{\sqrt{2}} \cdot \frac{10}{\sqrt{2}} = \frac{x(\sqrt{2})}{\sqrt{2}}$$

$$x = \frac{10\sqrt{2}}{\sqrt{2}}$$

$$x = 10$$

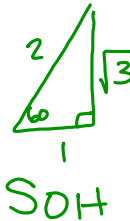


$$x = \sin^{-1}\left(\frac{5\sqrt{3}}{10}\right)$$

$$x = \sin^{-1}\left(\frac{\sqrt{3}}{2}\right)$$

$$x = \frac{\pi}{3}$$

hyp = 2 sh. leg
 long leg = $\sqrt{3}$ sh leg.



CL 7-173. Rewrite each equation below in graphing form and sketch its graph. Then state the domain and range and whether or not it is a function.

a. $y = 3x^2 - 30x + 73$

b. $x^2 + y^2 - 6x + 4y + 4 = 0$
 $x^2 - 6x + 9 + y^2 + 4y + 4 = 9$
 $(x-3)^2 + (y+2)^2 = 9$

CL 7-174. Solve each equation to the nearest thousandth.

a. $2 \cdot 3^x = \frac{40.8}{2}$

b. $3x^4 = 27$

c. $\log_5(2x+1) = 3$

d. $\log(x) + \log(2x) = 5$

$3^x = 20.4$
 $\log 3^x = \log 20.4$
 $x \cdot \frac{\log 3}{\log 3} = \frac{\log 20.4}{\log 3}$
 $x \approx$

$\log 2x^2 = 5$
 $10^5 = 2x^2$
 \vdots

or:

$\log_3 20.4 = x$
 $x = \frac{\log 20.4}{\log 3}$

CL 7-175. Find an equation for an exponential function that passes through the points (1, 22), (3, 20.125), and has a horizontal asymptote at $y = 20$.

$20.125 = ab^3$
 -20

$\frac{0.125}{2} = \frac{ab^3}{ab^1}$

$\sqrt{0.0625} = \sqrt{b^2}$

$0.25 = b$

$y = ab^x + 20$

$\frac{22}{20} = ab^1$
 $2 = ab^1$

1) Group Quiz

2) Classwork: White WS

Ch. 7 Graphic Organizer

Week 10 Classwork

Warm up

CP's 7- #139 ---> 142

CP's 7- #152 ---> 155

White WS: graphic organizer

Group Quiz:

Scientific calculators and notes are ok.

You may only write on your own paper.

Work together and check each other's work. Resolve any disagreements.

If you don't agree with your group, you may ask for your paper to be graded separately. Otherwise only one paper will be graded for your group.

HW: Review WS (Tan)
and review your unit circle!

Test 7: tomorrow

(No calculator, no notes)